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Listing of Claims

The following listing of claims will replace all prior versions, and listings, of claims in the subject application:

1. (currently amended) A head controller for controlling pressure creating means for contracting and expanding a volume of a pressurizing compartment communicating with a nozzle of a droplet discharging head, comprising:

drive waveform generating means for outputting a drive pulse that includes at least a first waveform element for expanding the volume of said pressurizing compartment, a second waveform element for maintaining an expanded state of the volume of said pressurizing compartment caused by the first waveform element, and a third waveform element for contracting the volume of said pressurizing compartment in the expanded state so that droplets are discharged from said pressurizing compartment; and

means for decreasing a difference between first and second potential differences when environmental temperature is higher than a first predetermined temperature and increasing the difference between the first and second potential differences when the environmental temperature is lower than a second predetermined temperature,

wherein the first potential difference ~~being~~ is a potential difference between the first waveform element at the beginning of expansion of the volume of said pressurizing compartment and the second waveform element, and the second potential difference ~~being~~ is a potential difference between the third waveform element at the end of contraction of the volume of said pressurizing compartment and the second waveform element, and

wherein the drive waveform generating means is configured to generate and output a

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drive waveform having the first potential difference greater than the second potential difference, and configured to vary a potential of the first waveform element according to the environmental temperature without varying a potential of the third waveform element.

Claims 2-3 (canceled).

4. (currently amended) An inkjet recording apparatus, comprising:

a droplet discharging head for discharging ink drops and having a pressurizing compartment;

drive waveform generating means for outputting a drive pulse that includes at least a first waveform element for expanding a volume of said pressurizing compartment of the droplet discharging head, a second waveform element for maintaining an expanded state of the volume of said pressurizing compartment caused by the first waveform element, and a third waveform element for contracting the volume of said pressurizing compartment in the expanded state so that ink drops are discharged from said pressurizing compartment;

temperature detecting means for detecting environmental temperature; and

means for decreasing a difference between first and second potential differences when the environmental temperature is higher than a first predetermined temperature and increasing the difference between the first and second potential differences when the environmental temperature is lower than a second predetermined temperature,

wherein the first potential difference being is a potential difference between the first

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waveform element at the beginning of expansion of the volume of said pressurizing compartment and the second waveform element, and the second potential difference ~~being is~~ a potential difference between the third waveform element at the end of contraction of the volume of said pressurizing compartment and the second waveform element, and

wherein the drive waveform generating means is configured to generate and output a drive waveform having the first potential difference greater than the second potential difference, and configured to vary a potential of the first waveform element according to the environmental temperature without varying a potential of the third waveform element.

Claims 5-6 (canceled).

7. (currently amended) An image recording apparatus, comprising:

a droplet discharging head for discharging droplets and having a pressurizing compartment;

drive waveform generating means for outputting a drive pulse that includes at least a first waveform element for expanding a volume of said pressurizing compartment of the droplet discharging head, a second waveform element for maintaining an expanded state of the volume of said pressurizing compartment caused by the first waveform element, and a third waveform element for contracting the volume of said pressurizing compartment in the expanded state so that droplets are discharged from said pressurizing compartment;

temperature detecting means for detecting environmental temperature; and

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means for decreasing a difference between first and second potential differences when the environmental temperature is higher than a first predetermined temperature and increasing the difference between the first and second potential differences when the environmental temperature is lower than a second predetermined temperature,

wherein the first potential difference being is a potential difference between the first waveform element at the beginning of expansion of the volume of said pressurizing compartment and the second waveform element, and the second potential difference being is a potential difference between the third waveform element at the end of contraction of the volume of said pressurizing compartment and the second waveform element, and

wherein the drive waveform generating means is configured to generate and output a drive waveform having the first potential difference greater than the second potential difference, and configured to vary a potential of the first waveform element according to the environmental temperature without varying a potential of the third waveform element.

Claims 8-9 (canceled).

10. (new) The head controller of claim 1, wherein the potential of the first waveform element at the beginning of the expansion of the volume of the pressurizing compartment is set higher than the potential of the third waveform element at the end of the contraction of the volume of the pressurizing compartment.

11. (new) The inkjet recording apparatus of claim 4, wherein the potential of the first

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waveform element at the beginning of the expansion of the volume of the pressurizing compartment is set higher than the potential of the third waveform element at the end of the contraction of the volume of the pressurizing compartment.

12. (new) The image recording apparatus of claim 7, wherein the potential of the first waveform element at the beginning of the expansion of the volume of the pressurizing compartment is set higher than the potential of the third waveform element at the end of the contraction of the volume of the pressurizing compartment.